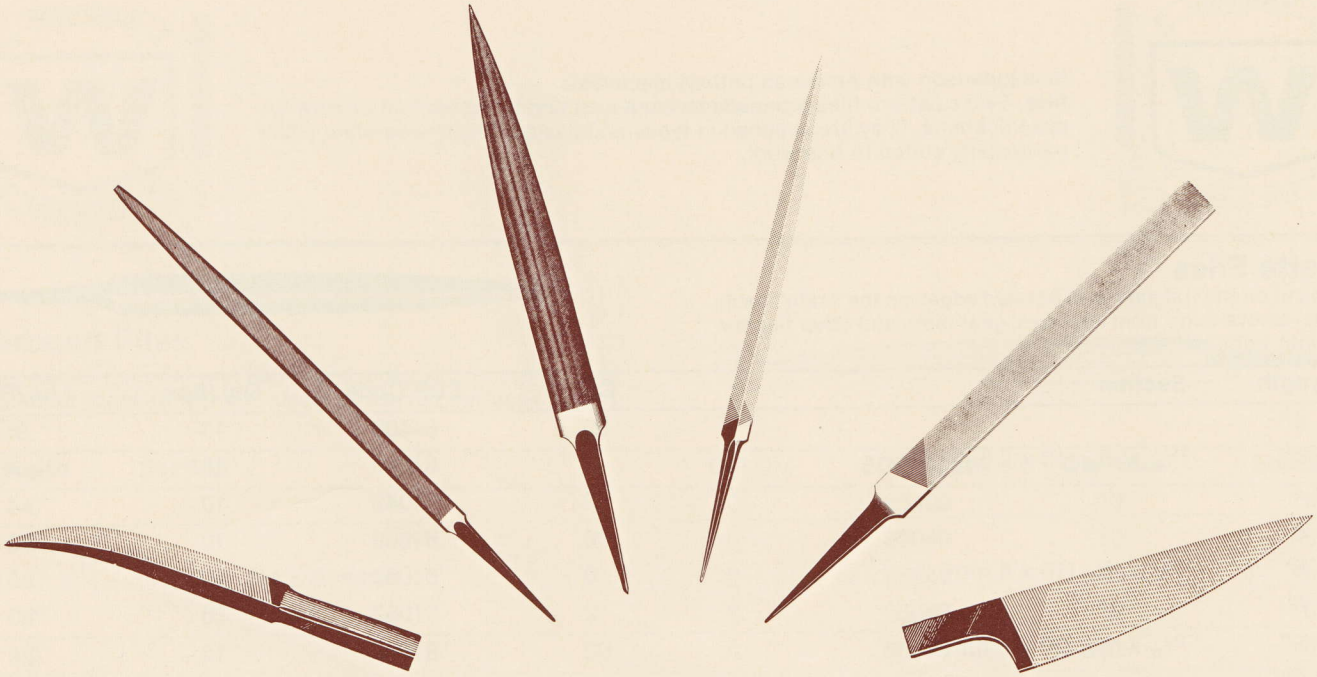
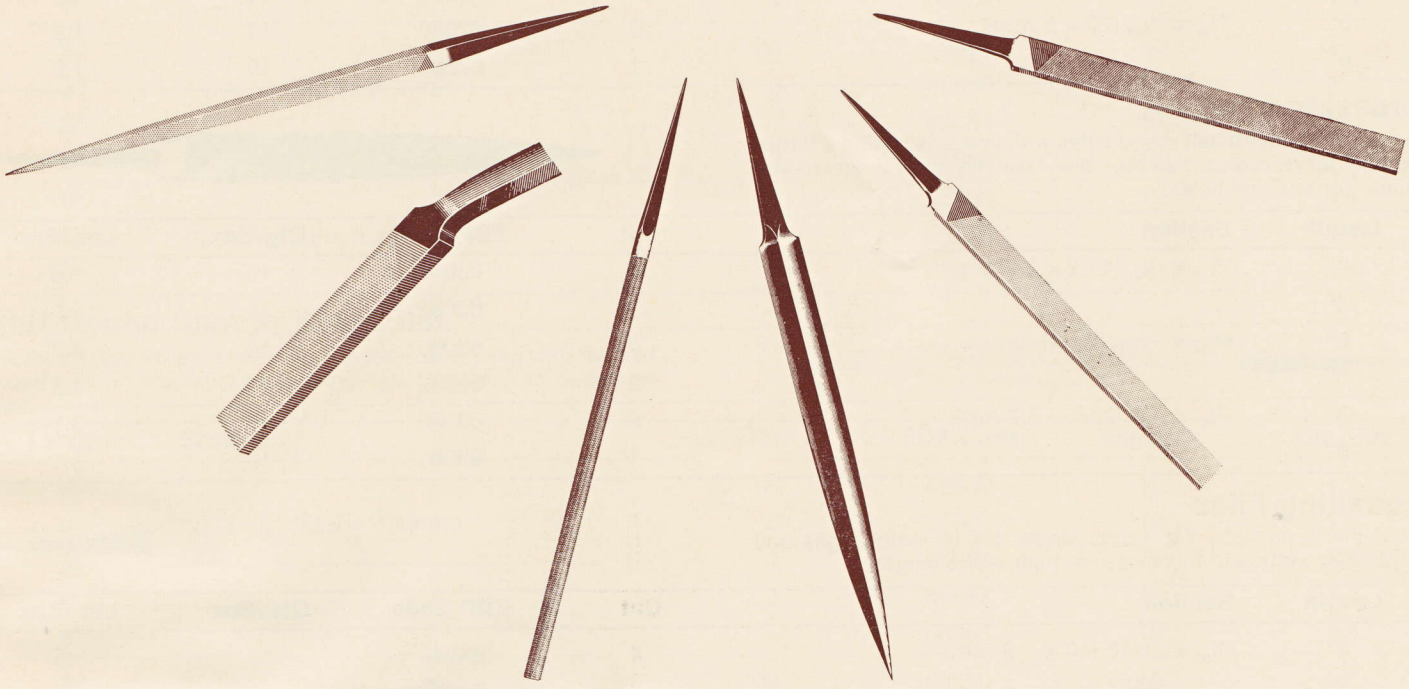


FILES & RASPS
SWISS PATTERN



WARRENSVILLE FILE & KNIFE, INC.

26309 MILES ROAD, CLEVELAND, OHIO 44128 U.S.A.

Telephone: (216) 831-7266
Telex: 241743

In comparison with American pattern machinists files, Swiss pattern files are made to more exacting specifications. They are supplied in types and designs particularly suited to fine work.

Barrette Files

Double cut on the flat side with beveled edges on the "safe" back. Used to remove burrs from keyways, gear teeth and other flat surfaces with tight corners.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"		00	61400	10	.4
4"	$^{25}/_{64}$ x $^{3}/_{32}$ (10 x 2.5 mm)	0	61040	10	.4
4"		2	61042	10	.4
6"		00	61600	10	1.3
6"	$^{5}/_{8}$ x $^{5}/_{32}$ (16 x 4 mm)	0	61060	10	1.3
6"		2	61062	10	1.3
8"	$^{25}/_{32}$ x $^{13}/_{64}$ (20 x 5 mm)	00	61800	10	2.5
8"		0	61080	10	2.5

Crochet Files

Double cut on flat sides and both edges. Used in slots and in corners between a flat and curved surface.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"	$^{25}/_{64}$ x $^{3}/_{32}$ (10 x 2.5 mm)	00	62400	10	.4
6"	$^{5}/_{8}$ x $^{1}/_{8}$ (16 x 3 mm)	1	62061	10	.8
8"		00	62800	10	1.8
8"	$^{25}/_{32}$ x $^{13}/_{64}$ (20 x 5 mm)	0	62080	10	1.8
8"		1	62081	10	1.8

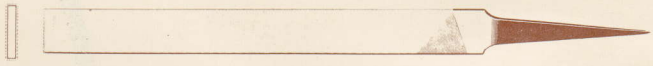
Crossing Files

Double cut on both half round sides with one side having a flatter curve or larger radius than the other. Used for interior curved surfaces, corners and holes.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"	$^{7}/_{16}$ x $^{1}/_{8}$ (11.2 x 3.2 mm)	0	63040	10	.6
4"		2	63042	10	.6
6"	$^{45}/_{64}$ x $^{13}/_{64}$ (18 x 5 mm)	0	63060	10	1.3
6"		2	63062	10	1.3
8"	$^{7}/_{8}$ x $^{1}/_{4}$ (22.4 x 6.3 mm)	0	63080	10	3.1
8"		1	63081	10	3.1

Equalling Files

Double cut on both flat sides, single cut on both edges and parallel in width and thickness for their entire length.



Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"	$^{25}/_{64}$ x .0118 (10 x .3 mm)	4	64043	10	.5
4"	.0157 .4	2	64044	10	.5
4"	.0197 .5	2	64045	10	.5
4"	.0236 .6	2	64046	10	.5
4"	.0315 .8	2	64048	10	.5
4"	.0394 1	2	64041	10	.5
6"	$^{5}/_{8}$ x .0472 (16 x 1.2 mm)	2	64062	10	1.3
6"	.0551 1.4	2	64064	10	1.3
6"	.063 1.6	2	64066	10	1.3
6"	.071 1.8	2	64068	10	1.3

All work to be filed should be held as securely as possible, preferably in a vise.

Halfround Files

Double cut on both flat and half round sides with sharp corners and gradual taper to a point. Used for curved surfaces and in corners.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"		00	65400	10	.6
4"		0	65040	10	.6
4"	7/16 x 1/8 (11 x 3 mm)	2	65042	10	.6
4"		3	65043	10	.6
4"		4	65044	10	.6
5"	35/64 x 9/64 (14 x 3.5 mm)	0	65050	10	.9
5"		2	65052	10	.9
6"		00	65600	10	1.5
6"		0	65060	10	1.5
6"	45/64 x 11/64 (18 x 4.5 mm)	1	65061	10	1.5
6"		2	65062	10	1.5
6"		3	65063	10	1.5
6"		4	65064	10	1.5
8"		00	65800	10	3
8"	55/64 x 1/4 (22 x 6.5 mm)	0	65080	10	3
8"		1	65081	10	3
8"		2	65082	10	3
10"		00	65100	10	5.6
10"	5/8 x 13/64 (16 x 5.3 mm)	0	65010	10	5.6
10"		1	65011	10	5.6

Half Round Slim or Ring Files

Similar to Half Round Files only thinner in width and with the half round side on a smaller radius, they are thinner in thickness as well.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
6"		00	66600	10	1.3
6"	1/2 x 11/64 (12.5 x 4.2 mm)	0	66060	10	1.3
6"		1	66061	10	1.3
6"		2	66062	10	1.3
6"		3	66063	10	1.3
8"	35/64 x 11/64 (14 x 4.5 mm)	00	66800	10	2.7
8"		1	66081	10	2.7

Hand Files

Double cut on both flat sides, single cut on one edge and "safe" on the other edge. Used on flat surfaces.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"		0	68040	10	.75
4"	25/64 x 3/32 (10 x 2.5 mm)	2	68042	10	.75
4"		4	68044	10	.75

A file is a cutting tool. Like all cutting tools, proper care and proper use prolongs their cutting life. Starting new work with an old file and finish filing with a new is good practice.

Hand Files Continued

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
6"		00	68600	10	2
6"		0	68060	10	2
6"		1	68061	10	2
6"	$^{5}/_{8}$ x $^{5}/_{32}$ (16 x 4 mm)	2	68062	10	2
6"		3	68063	10	2
6"		4	68064	10	2
6"		6	68066	10	2
8"		00	68800	10	3.5
8"		0	68080	10	3.5
8"	$^{25}/_{32}$ x $^{13}/_{64}$ (20 x 5 mm)	1	68081	10	3.5
8"		2	68082	10	3.5
8"		4	68084	10	3.5
10"		00	68100	10	6.8
10"	$^{63}/_{64}$ x $^{1}/_{4}$ (25 x 6.3 mm)	0	68010	10	6.8
10"		2	68012	10	6.8
12"		00	68200	10	8.2
12"	1 x $^{1}/_{4}$ (26 x 6.3 mm)	0	68020	10	8.2
12"		1	68021	10	8.2

Joint Files, Round Edge

Double cut on edges only both sides are "safe". Parallel in width and thickness. Used mostly to file slots and grooves having rounded edges.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"	$^{25}/_{64}$ x .0118 27 GA.	2	69403	10	.25
4"	$^{25}/_{64}$ x .0394 19 GA.	2	69410	10	.4

Knife Files

Double cut on both sides with a "safe" back. This file is in the shape of a knife and tapers in width and thickness. Used to file in a slot and wedge shape opening.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"		0	70040	10	.5
4"	$^{25}/_{64}$ x $^{9}/_{64}$ (10 x 3.4 mm)	1	70041	10	.5
4"		2	70042	10	.5
4"		3	70043	10	.5
6"		00	70600	10	1
6"	$^{5}/_{8}$ x $^{13}/_{64}$ (16 x 5.2 mm)	0	70060	10	1
6"		1	70061	10	1
8"		00	70800	10	2
8"	$^{25}/_{32}$ x $^{1}/_{4}$ (20 x 6.4 mm)	0	70080	10	2
8"		1	70081	10	2

Warrensville Files are given a heavy coating of a special rust preventative oil which is actually brushed on each file. This oil used also contains a special fingerprint inhibitor.

Needle Files — Diamond

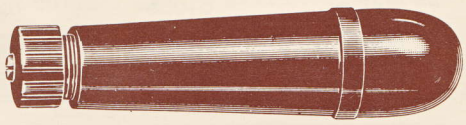
These files combine excellent material removal with tool life when used with the lightest of pressure. Also used on very hard material. All 5½" - 140 mm in length.

Shape	Grit 90	Grit 125	Grit 150	Qty./Box	Lbs./Box
Hand	60090	60125	60150	10	.3
Hand with Round Edges	61090	61125	61150	10	.3
Warding	62090	62125	62150	10	.3
Three Square	63090	63125	63150	10	.3
Square	64090	64125	64150	10	.3
Half Round	65090	65125	65150	10	.3
Round	66090	66125	66150	10	.3
Knife	67090	67125	67150	10	.3
Slitting	68090	68125	68150	10	.3
Crossing	69090	69125	69150	10	.3
Barrette	70190	70125	70150	10	.3

Needle File Handles

A hard plastic handle that has a screw-on head to tighten the inserted Needle File securely into place. The handle can be used time and again; it was made to last.

Length	EDP Code	Qty./Box	Lbs./Box
$3^{5}/_{32}$" - 80 mm	71032	12	2



Always use a handle when filing. This is a safety precaution to prevent possible injury from the pointed tang.

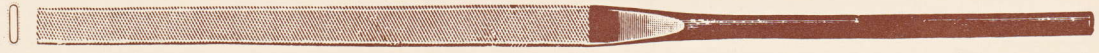
Needle Files — Round Handle

Precision files of the same style cut cut on a thinner scale to the larger tang files. Used for almost every filing need. There are a quantity of 10 per box and the box weights are: 4" - .1; 5½" - .2; 6¼" - .21; 7¾" - .45.

Hand

	00	0	1	2	3	4
4" - 100 mm	85014	80014	81014	82014	83014	84014
5½" - 140 mm	85015	80015	81015	82015	83015	84015
6¼" - 160 mm	85016	80016	81016	82016	83016	84016
7¾" - 200 mm	85017	80017	81017	82017	83017	84017

Hand, 2 RE



	00	0	1	2	3	4
4" - 100 mm	—	80024	81024	82034	—	84034
5½" - 140 mm	—	80025	81025	82035	83035	84035
6¼" - 160 mm	—	80026	81026	82036	83036	—
7¾" - 200 mm	85027	80027	81027	82037	—	84037

Flat

	00	0	1	2	3	4
4 " - 100 mm	—	80034	81034	82034	83034	84034
5½" - 140 mm	85035	80035	81035	82035	83035	84035
6¼" - 160 mm	85036	80036	81036	82036	83036	—
7¾" - 200 mm	85037	80037	81037	82037	83037	—

Crochet

	00	0	1	2	3	4
4" - 100 mm	—	80044	81044	82044	—	—
5½" - 140 mm	85045	80045	81045	82045	83045	84045
6¼" - 160 mm	85046	80046	81046	82046	—	—
7¾" - 200 mm	85047	80047	81047	82047	—	—

Half Round

	00	0	1	2	3	4
4" - 100 mm	85054	80054	81054	82054	83054	84054
5½" - 140 mm	85055	80055	81055	82055	83055	84055
6¼" - 160 mm	85056	80056	81056	82056	83056	84056
7¾" - 200 mm	85057	80057	81057	82057	83057	84057

Three Square

	00	0	1	2	3	4
4" - 100 mm	85064	80064	81064	82064	—	84064
5½" - 140 mm	85065	80065	81065	82065	83065	84065
6¾" - 160 mm	85066	80066	81066	82066	83066	84066
7¾" - 200 mm	85067	80067	81067	82067	83067	84067

The use of a file handle also makes it easier to guide the file and permit more accurate filing to be performed.

Square

	00	0	1	2	3	4
4" - 100 mm	85074	80074	81074	82074	83074	84074
5½" - 140 mm	84075	80075	81075	82075	83075	84075
6¼" - 160 mm	85076	80076	81076	82076	83076	84076
7¾" - 200 mm	85077	80077	81077	82077	83077	84077

Round

	00	0	1	2	3	4
4" - 100 mm	85084	80084	81084	82084	83084	84084
5½" - 140 mm	85085	80085	81085	82085	83085	84085
6¼" - 160 mm	85086	80086	81086	82086	83086	84086
7¾" - 200 mm	85087	80087	81087	82087	83087	84087

Crossing

	00	0	1	2	3	4
4" - 100 mm	—	80094	81094	82094	83094	84094
5½" - 140 mm	85095	80095	81095	82095	93095	84095
6¼" - 160 mm	85096	80096	81096	82096	83096	84096
7¾" - 200 mm	85097	80097	81097	82097	83097	84097

Slitting

	00	0	1	2	3	4
4" - 100 mm	—	—	81104	82104	—	84104
5½" - 140 mm	—	80105	81105	82105	83105	84105
6¼" - 160 mm	85106	80106	81106	82106	83106	—
7¾" - 200 mm	85107	80107	81107	82107	83107	—

Barrette

	00	0	1	2	3	4
4" - 100 mm	—	80114	81114	82114	83114	84114
5½" - 140 mm	85115	80115	81115	82115	83115	84115
6¼" - 160 mm	85116	80116	81116	82116	83116	84116
7¾" - 200 mm	85117	80117	81117	82117	83117	—

Knife

	00	0	1	2	3	4
4" - 100 mm	—	80124	81124	82124	—	84124
5½" - 140 mm	85125	80125	81125	82125	83125	84125
6¼" - 160 mm	85126	80126	81126	82126	83126	—
7¾" - 200 mm	85127	80127	81127	82127	83127	—

Never allow files to rub against each other; keep files on a rack. Files supplied in a plastic pouch should be cleaned with a wire brush and stored in the pouch when not in use.

Needle File Sets

Plastic pouch containing a full assortment of one each of the twelve different shapes of round Handled Needle Files.

	Length	0	2	4	Lbs./Set
Economy Quality	5½" - 140 mm	40140	40142	—	.2
	6¼" - 160 mm	40160	40162	—	.3
Industrial Quality	4" - 100 mm	88240	88242	88244	.1
	5½" - 140 mm	88250	88252	88254	.2
	6¼" - 160 mm	88260	88262	—	.3
	7¾" - 200 mm	88270	88272	—	.5

Needle Files — Square Handle and Escapement Files

Square Handle Needle Files have a longer handle and smaller file cut section. Used as round handled files are, with as many various uses as there are cuts and shapes. Available length 5½" (140 mm).

	Cut			
Shape	4	8	Qty. Per Box	Lbs. per Box
Square	86135	87135	10	.3
Barrette	86145	87145	10	.3
Crossing	86155	87155	10	.3
Rounding Off	86165	87165	10	.3
Equalling	86175	87175	10	.3
Half Round	86185	87185	10	.3
Three Square	86195	87195	10	.3
Round	86205	87205	10	.3
Knife	86215	87215	10	.3
Hand 2 Round Edges	86225	87225	10	.3
Assortment of 10 pcs.	86235	87235	10	3.0

Warrensville Files are famous for their uniformity of hardness and long-wearing characteristics which are attributed directly to individual hardening of every file.

Oval Files

Double cut and tapered with a smaller radius than Half Round Files or Crossing Files. Used for rounding smaller slots.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
6"	$^{25}/_{64}$ x $^{15}/_{64}$ (10 x 6 mm)	00	72600	10	.9
6"		1	72061	10	.9
8"	$^{15}/_{32}$ x $^{5}/_{16}$ (12 x 8 mm)	00	72800	10	1.3
8"		1	72081	10	1.3

Pillar Files — Regular

Double cut on two sides with one edge "safe". A general purpose file used primarily for working on flat surfaces.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"	$^{25}/_{64}$ x $^{3}/_{32}$ (10 x 2.5 mm)	00	73400	10	.75
4"		0	73040	10	.75
4"		1	73041	10	.75
4"		2	73042	10	.75
4"		4	73044	10	.75
4"		6	73046	10	.75
6"	$^{5}/_{8}$ x $^{5}/_{32}$ (16 x 4 mm)	00	73600	10	2
6"		0	73060	10	2
6"		1	73061	10	2
6"		2	73062	10	2
6"		3	73063	10	2
6"		4	73064	10	2
6"		6	73066	10	2
8"	$^{25}/_{32}$ x $^{13}/_{64}$ (20 x 5 mm)	00	73800	10	3.5
8"		0	73080	10	3.5
8"		1	73081	10	3.5
8"		2	73082	10	3.5
8"		3	73083	10	3.5
8"		4	73084	10	4.5
10"	$^{63}/_{64}$ x $^{1}/_{4}$ (25 x 6.3 mm)	00	73100	10	6.8
10"		0	73010	10	6.8
10"		2	73012	10	6.8
12"	1 x $^{1}/_{4}$ (26 x 6.3mm)	00	73200	10	8.2
12"		0	73020	10	8.2

Pillar Files — Semi Narrow

Double cut on two sides with one safe edge. The Semi-Narrow Pillar File is one of various thicknesses of Pillar Files from which to choose.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
6"	$^{15}/_{32}$" x $^{5}/_{32}$ (12 x 4 mm)	00	74600	10	1.1
6"		0	74060	10	1.1
6"		1	74061	10	1.1

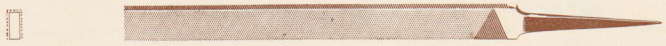
Warrensfille Files are made from finest grade steel and are specially finished by a sand blast method designed to improve their cutting efficiency and lengthen their effective life.

Pillar Files Semi-Narrow Continued

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
8"	$^{19}/_{32}$ x $^{13}/_{64}$ (15 x 5 mm)	00	74800	10	3
8"		0	74080	10	3
8"		2	74082	10	3

Pillar Files — Narrow

Double cut on two sides with one safe edge. While parallel in width, they are tapered in thickness to make possible perfectly flat filing.



Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
5"	$^{5}/_{16}$ x $^{1}/_{8}$ (8 x 3 mm)	00	71500	10	1
5"		0	71050	10	1
5"		1	71051	10	1
5"		2	71052	10	1
5"		4	71054	10	1
6"	$^{25}/_{64}$ x $^{9}/_{64}$ (10 x 3.5 mm)	00	71600	10	1.3
6"		0	71060	10	1.3
6"		1	71061	10	1.3
6"		2	71062	10	1.3
6"		4	71064	10	1.3
8"	$^{15}/_{32}$ x $^{5}/_{32}$ (12 x 4 mm)	00	71800	10	2.75
8"		0	71080	10	2.75
8"		1	71081	10	2.75
8"		2	71082	10	2.75
10"	$^{19}/_{32}$ x $^{13}/_{64}$ (15 x 5 mm)	00	71100	10	5.2
10"		0	71010	10	5.2

Pillar Files — Extra Narrow

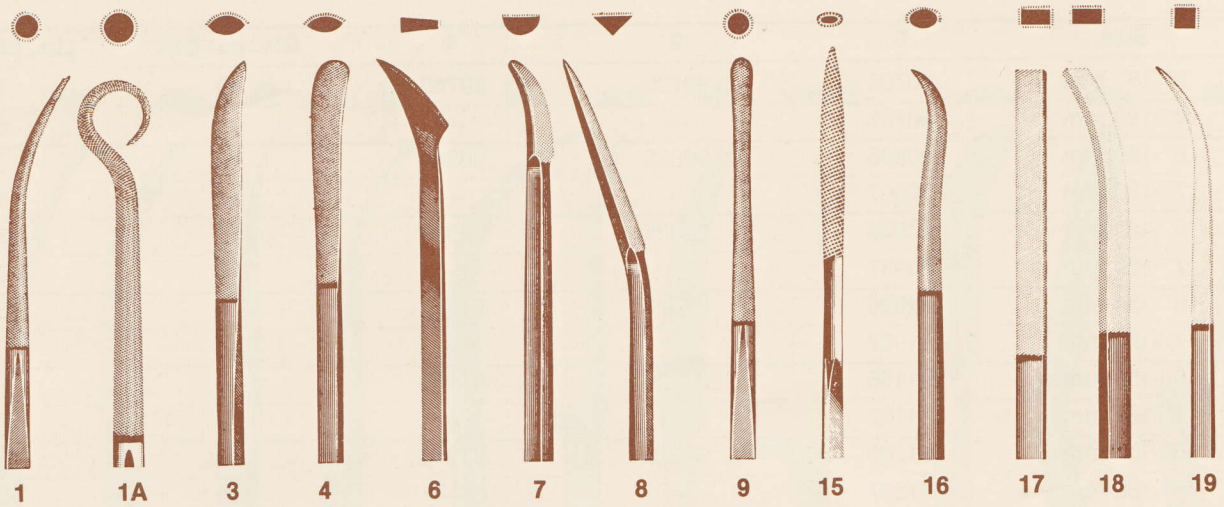
Pillar Extra Narrow Files are similar to Pillar Narrow Files in design and purpose, but are narrower for their length.

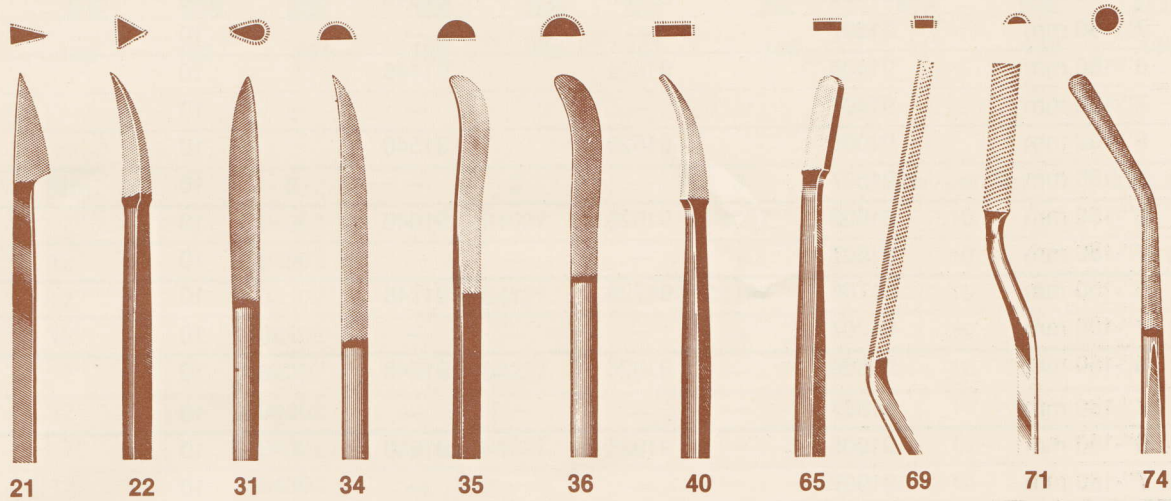
Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"	$^{13}/_{64}$ x $^{3}/_{32}$ (5 x 2.2 mm)	00	75400	10	.4
4"		0	75040	10	.4
4"		1	75041	10	.4
4"		2	75042	10	.4
4"		3	75043	10	.4
6"	$^{5}/_{16}$ x $^{1}/_{8}$ (8 x 3 mm)	00	75600	10	.8
6"		0	75060	10	.8
6"		1	75061	10	.8
6"		2	75062	10	.8
6"		4	75064	10	.8
8"	$^{25}/_{64}$ x $^{9}/_{64}$ (10 x 3.5 mm)	00	75800	10	2
8"		0	75080	10	2
8"		1	75081	10	2
8"		2	75082	10	2
10"	$^{15}/_{32}$ x $^{5}/_{32}$ (12 x 4 mm)	00	75100	10	4
10"		2	75012	10	4

Sharpness, indicated by well-shaped teeth, establishes the rate at which a file cuts. The tooth design, construction, and pattern of Warrensville Files gives the utmost in this cutting efficiency.

Rifflers — Die Sinkers' or Engravers'

Long straight, "safe" middle portion for handhold with slender stock and narrow ends. Used by die sinkers, jewelers and instrument manufacturers.





Shape	Size	0	2	4	Qty. per Box	Lbs. per Box
1	6"-150 mm	90106	90126	90146	10	.3
	7"-180 mm	90107	—	—	10	.5
1A	6"-150 mm	90206	90226	90246	10	.3
	7"-180 mm	90207	—	—	10	.5
3	6"-150 mm	90306	90326	90346	10	.3
	7"-180 mm	90307	—	—	10	.5
4	6"-150 mm	90406	90426	—	10	.3
	7"-180 mm	90407	—	—	10	.5
6	6"-150 mm	90506	90526	—	10	.3
	7"-180 mm	90507	—	—	10	.5
7	6"-150 mm	90606	90626	90646	10	.3
	7"-180 mm	90607	—	—	10	.5

Durability is indicated by the total number of strokes a file gives throughout its working life. With Warrensville Files the number of strokes will far surpass government requirements for a good life.

Rifflers — Die Sinkers' or Engravers' (continued)

Shape	Size	0	2	4	Qty. per Box	Lbs. per Box
8	6"-150 mm	90706	90726	90746	10	.3
	7"-180 mm	90707	—	—	10	.5
9	6"-150 mm	90806	90826	90846	10	.3
	7"-180 mm	90807	—	—	10	.5
15	6"-150 mm	90906	90926	90946	10	.3
	7"-180 mm	90907	—	—	10	.5
16	6"-150 mm	91006	91026	91046	10	.3
	7"-180 mm	91007	—	—	10	.5
17	6"-150 mm	91106	91126	91146	10	.3
	7"-180 mm	91107	—	—	10	.5
18	6"-150 mm	91206	91226	91246	10	.3
	7"-180 mm	91207	—	—	10	.5
19	6"-150 mm	91306	91326	91346	10	.3
	7"-180 mm	91307	—	—	10	.5
21	6"-150 mm	91406	91426	91446	10	.3
	7"-180 mm	91407	—	—	10	.5
22	6"-150 mm	91506	91526	91546	10	.3
	7"-180 mm	91507	—	—	10	.5
31	6"-150 mm	91606	91626	91646	10	.3
	7"-180 mm	91607	—	—	10	.5
34	6"-150 mm	91706	91726	91746	10	.3
	7"-180 mm	91707	—	—	10	.5
35	6"-150 mm	91806	91826	91846	10	.3
	7"-180 mm	91807	—	—	10	.5
36	6"-150 mm	91906	91926	91946	10	.3
	7"-180 mm	91907	—	—	10	.5
40	6"-150 mm	92006	92026	92046	10	.3
	7"-180 mm	92007	—	—	10	.5
65	6"-150 mm	92106	92126	92146	10	.3
	7"-180 mm	92107	—	—	10	.5
69	6"-150m mm	92206	92226	92246	10	.3
	7"-180 mm	92207	—	—	10	.5
71	6"-150 mm	92306	92326	92346	10	.3
	7"-180 mm	92307	—	—	10	.5
74	6"-150 mm	92406	92426	—	10	.3
	7"-180 mm	92407	—	—	10	.5

Files are made to cut on the forward stroke only, therefore no pressure should be applied on the return stroke as this dulls the teeth very rapidly.

Rifflers, Silversmiths' or Die Makers' and Tool Makers

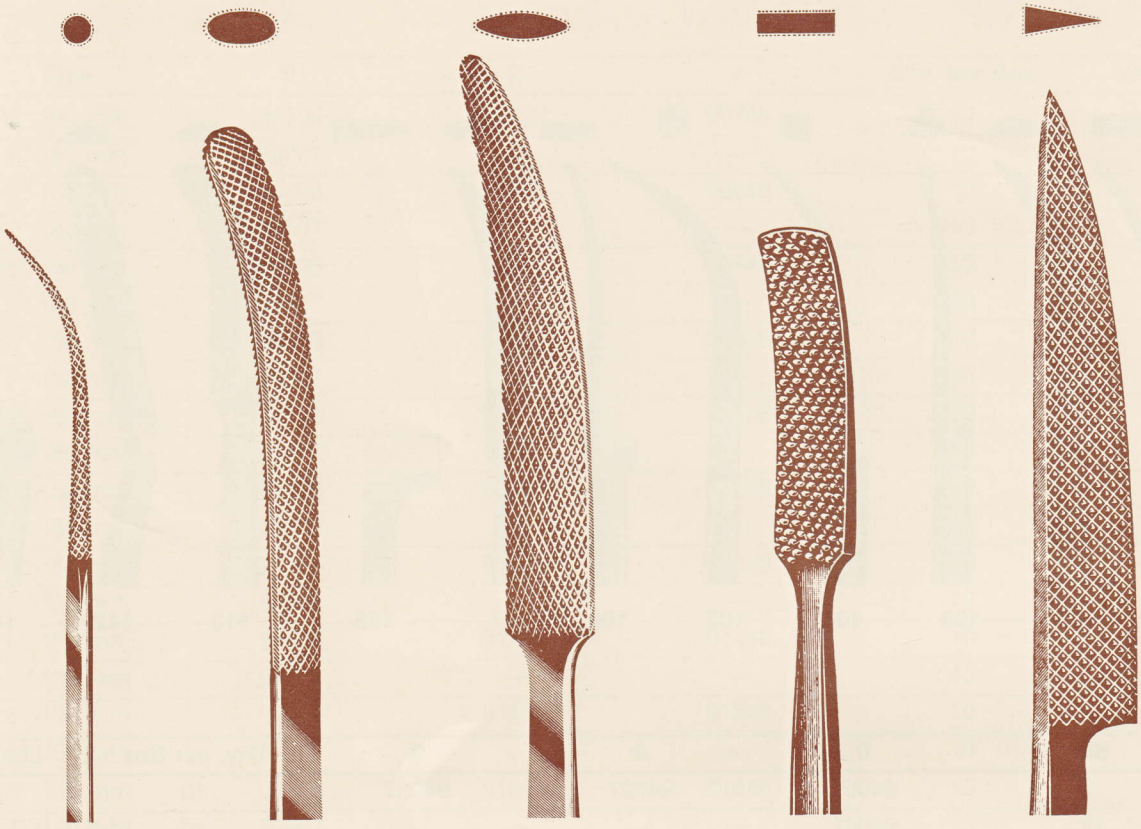
Longer sections and wider ends than Die Sinker Rifflers. Used in making glass moulding dies.

Shape	Size	0	2	3	Qty. per Box	Lbs. per Box
101	7"	94007	94027	94037	10	.5
	12"	94002	—	—	10	2
102	7"	94107	94127	94137	10	.5
	12"	94102	—	—	10	2
103	7"	94207	94227	—	10	.5
	12"	94202	—	—	10	2
104	7"	94307	94327	—	10	.5
	12"	94302	—	—	10	2
105	7"	94407	94427	—	10	.5
	12"	94402	—	—	10	2
106	7"	94507	94527	—	10	.5
	12"	94502	—	—	10	2
107	7"	94607	94627	—	10	.5
	12"	94602	—	—	10	2
108	7"	94707	94727	94737	10	.5
	12"	94702	—	—	10	2
113	7"	94807	94827	—	10	.5
	12"	94802	—	—	10	2
142	7"	94907	94927	—	10	.5
	12"	94902	—	—	10	2
143	7"	95007	95027	—	10	.5
	12"	95002	—	—	10	2

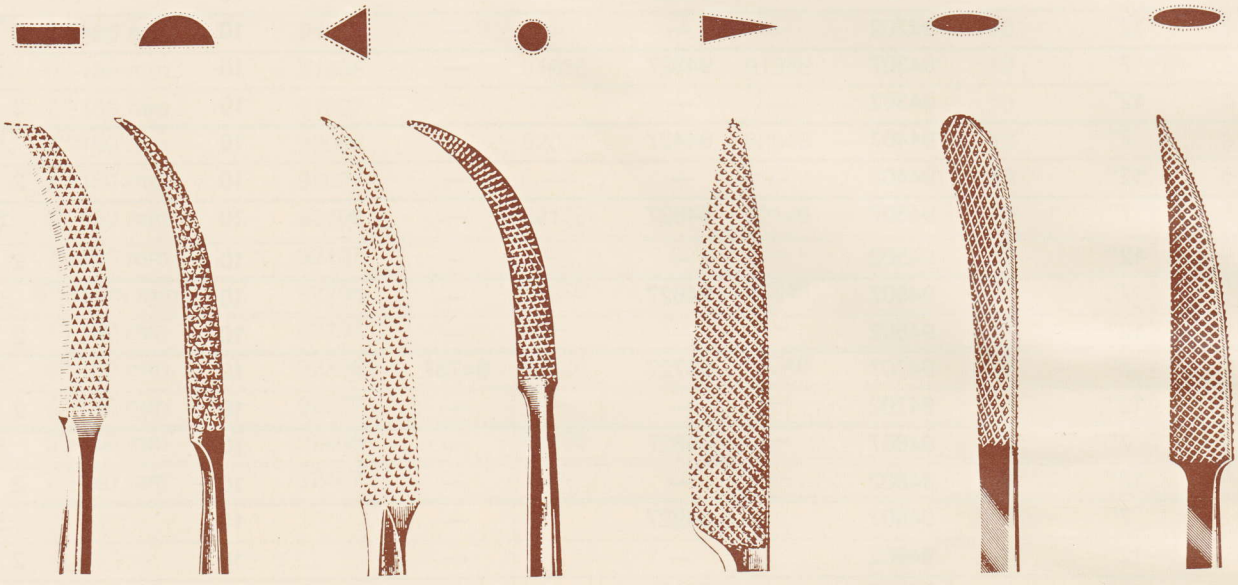
The length of a file is the length of the actual blade, not counting the tang. The exception to this rule is on needle files and rifflers where the length is measured as total length.

Riffler Rasps

Precision rasps for delicate, intricate work for pattern makers, cabinet makers and sculptors.



204 269 295 762 207



201 202 203 205 208 212 294

The tooth spacing, or number of teeth per inch, varies slightly with the make of a file and increases in proportion as the length of a file increases.

Riffler Rasps (Continued)

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
201	8"-200 mm	Coarse	76001	10	1
		Fine	76002	10	1
202	8"-200 mm	Coarse	76003	10	1
		Fine	76004	10	1
203	8"-200 mm	Coarse	76005	10	1
		Fine	76006	10	1
204	7 1/4"-185 mm	Fine	76007	10	.9
205	8"-200 mm	Coarse	76008	10	1
		Fine	76009	10	1
207	12"-300 mm	Medium	76010	10	4
208	8"-200 mm	Coarse	76011	10	1
		Fine	76012	10	1
212	8"-200 mm	Coarse	76013	10	1
		Fine	76014	10	1
269	11"-280 mm	Medium	76015	10	3.5
294	8"-200 mm	Coarse	76016	10	1
		Fine	76017	10	1
295	11"-280 mm	Medium	76018	10	3.5
762	8 1/4"-210 mm	Coarse	76019	10	1.1

Round Files

Double cut with a gradual taper throughout their length to a fine point. Used to enlarge a hole or round off a radius.

Length	Diameter	Cut	EDP Code	Qty./Box	Lbs./Box
3"	1/32" (1 mm)	2	76032	10	.1
3"		4	76034	10	.1
4"	5/32" (4 mm)	00	76400	10	.2
4"		0	76040	10	.2
4"		1	76041	10	.2
4"		2	76042	10	.2
5"	13/64" (5 mm)	00	76500	10	.25
5"		0	76050	10	.25
5"		2	76052	10	.25
6"	1/4" (6.3 mm)	00	76600	10	.75
6"		0	76060	10	.75
6"		1	76061	10	.75
6"		2	76062	10	.75
6"		3	76063	10	.75
8"	5/16" (8 mm)	00	76800	10	1.3
8"		0	76080	10	1.3
8"		1	76081	10	1.3
8"		2	76082	10	1.3

Ability to use a file efficiently has long been the hallmark of the skilled craftsman. High wuality work requires first-class files, and that is a Warrensville File.

Round Straight Files

Double cut files made from the same sizes as Round Files, but are parallel, and cut over their entire length.

Length	Diameter	Cut	EDP Code	Qty./Box	Lbs./Box
4"	1/16"	2	77040	10	.2
4"	3/32"	2	77041	10	.3
4"	1/8"	2	77042	10	.4
6"	1/8"	2	77060	10	.8
6"	5/32"	2	77061	10	1
6"	1/4"	2	77062	10	1
6"	3/16"	2	77063	10	.9
8"	5/16"	0	77081	10	1.3

Screw Head Files

Screw Head Files are made for enlarging and cleaning out slots. They are most commonly used in the repair of screw heads.

Length	Width x Edge Thickness	EDP Code	Qty./Box	Lbs./Box
4"	25/64 x .006 (10 x .15 MM)	77000	10	.2

Slitting Files

Double cut on the four parallel sides and single cut on the two sharp edges. Used in finishing and repairing gears and other slots. Their feather edge can reach where a Knife File is too thick.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
8"	63/64 x 15/64 (25 x 6 mm)	00	77001	10	1

Square Files

Double cut on all four sides, which gradually taper to a point. Used as a general purpose file.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"	5/32" (4 mm)	00	74800	10	3.3
4"		0	78040	10	3.3
4"		1	78041	10	3.3
4"		2	78042	10	3.3
6"	1/4" (6.3 mm)	00	78600	10	1
6"		0	78060	10	1
6"		1	78061	10	1
6"		2	78062	10	1
8"	5/16" (8 mm)	00	78800	10	2
8"		0	78080	10	2

In addition to the spot inspection of quality control throughout different phases of manufacture, each side of every file is given a "prover-test" for hardness and cutting ability.

Threesquare Files

Double cut on all three sides and single cut on the edges tapering to a point.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
4"	1/4" (6.3 mm)	00	79400	10	.5
4"		0	79040	10	.5
4"		1	79041	10	.5
4"		2	79042	10	.5
4"		4	79044	10	.5
6"	25/64" (10 mm)	00	79600	10	1.1
6"		0	79060	10	1.1
6"		1	79061	10	1.1
6"		2	79062	10	1.1
6"		4	79064	10	1.1
8"	35/64" (14 mm)	00	79800	10	3.1
8"		0	79080	10	3.1
8"		1	79081	10	3.1
8"		2	79082	10	3.1

Three Square Slim Files

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
6"	15/64" (6 mm)	0	79000	10	1
8"	5/16" (8 mm)	0	79088	10	2

Warding Files

Double cut on two flat sides and single cut on both edges. Parallel in thickness and tapered in width. Used for precision removal of burrs on milled work.

Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
5"	1/2 x 1/8 (12.5 x 3.2 mm)	0	96050	10	.8
6"	5/8 x 5/32 (16 x 4 mm)	00	96600	10	1
6"		0	96060	10	1
6"		1	96061	10	1
8"	25/32 x 13/64 (20 x 5 mm)	00	96800	10	2
8"		0	96080	10	2

Warding Special Thickness

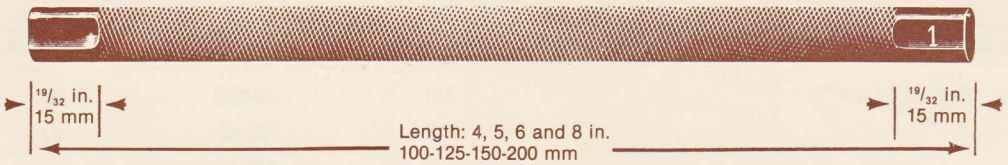
Length	Section	Cut	EDP Code	Qty./Box	Lbs./Box
6"	5/8 x .0472 (16 x 1.2 mm)	0	96012	10	1
6"	5/8 x .0551 (16 x 1.4 mm)	0	96014	10	1
6"	5/8 x .0591 (16 x 1.5 mm)	0	96015	10	1
6"	5/8 x .063 (16 x 1.6 mm)	0	96016	10	1
6"	5/8 x .071 (16 x 1.8 mm)	0	96018	10	1
6"	5/8 x .0787 (16 x 2 mm)	0	96020	10	1

It is very important that enough pressure be exerted at all times to keep the file cutting. Teeth that slide over the work become dulled very quickly.

Machine Files

Parallel machine files, tension type, Acme, Ideal, High Speed and similar filing machines.

Parallel with 2 flat ends



Shape			4"/100 mm		5"/125 mm		6"/150mm			8"/200 mm
hand	EDP Code	Cut 00	70001	70002	70003	70004	70005	70006	70007	
		Cut 2	70009	70010	70011	70012	70013	70014	70015	Cut 0 70008
	Section	in.	5/64 x 3/64	1/8 x 1/16	9/64 x 5/64	15/64 x 3/32	11/64 x 5/64	5/16 x 1/8	25/64 x 9/64	15/32 x 5/32
		mm	2 x 1	3 x 1.5	3.5 x 1.8	6 x 2.5	4.5 x 2	8 x 3	10 x 3.5	12 x 4
square	EDP Code	Cut 00	70016	70017	70018	70019	70020	70021	70022	
		Cut 2	70024	70025	70026	70027	70028	70029	70030	Cut 0 70023
	Section	in.	3/64	5/64	1/8	13/64	5/32	1/4	5/16	25/64
		mm	1.3	2	3.2	5	4	6.3	8	10
threesquare	EDP Code	Cut 00	70031	70032	70033		70035	70036	70037	
		Cut 2	70039	70051	70052		70054	70055	70056	Cut 0 70038
	Section	in.	3/64	5/64	9/64		13/64	1/4	5/16	25/64
		mm	1	2	3.5		5	6.5	8	10
round	EDP Code	Cut 00	70057	70058	70059	70070	70071	70072	70073	
		Cut 2	70074	70075	70076	70077	70078	70079	70090	
	Section	in.	3/64	5/64	1/8	13/64	5/32	15/64	5/16	
		mm	1	2	3.2	5	4	6	8	
halfround	EDP Code	Cut 00	70091	70092	70093	70094	70095	70096	70097	
		Cut 2	70098	70099	70100	70101	70102	70103	70104	Cut 0 70105
	Section	in.	1/16 x 1/48	5/64 x 3/64	1/8 x 1/16	15/64 x 3/32	5/32 x 5/64	1/4 x 1/8	5/16 x 5/32	25/64 x 13/64
		mm	1.5 x 0.5	2 x 1	3.2 x 1.6	5 x 2.5	4 x 2	6.3 x 3.2	8 x 4	10 x 5
barrette	EDP Code	Cut 00			70106		70107		70108	
		Cut 2			70109		70110		70111	
	Section	in.			1/8 x 1/16		13/64 x 3/32		5/16 x 5/32	
		mm			3.2 x 1.6		5 x 2.5		8 x 4	
crossing	EDP Code	Cut 00						70112		
		Cut 2						70113		
	Section	in.						15/64 x 1/8		
		mm						6 x 3		
knife	EDP Code	Cut 00		70114			70115		70116	
		Cut 2		70117			70118		70119	
	Section	in.		1/8 x 1/16			5/32 x 5/64		5/16 x 5/32	
		mm		3 x 1.6			4 x 2		8 x 4	
crochet	EDP Code	Cut 00	70120		70121	70122	70123		70124	
		Cut 2	70125		70126	70127	70128		70129	
	Section	in.	5/16 x 3/64		9/64 x 5/64	15/64 x 5/64	11/64 x 5/64		25/64 x 9/64	
		mm	2 x 1		3.5 x 1.8	6 x 2.5	4.5 x 2		10 x 3.5	

A Glossary of Swiss File Terminology

BACK In a half round, barrette, cant or files of similar cross section, this is the convex side.

BARRETTE FILE Cut on wide nat face and safe on sides and back. Tapered in width and thickness.

BENCH FILING MACHINE FILE Parallel files of various cross sections for use in filing machines.

BLANK A steel forging from which a file is made. The basic shape of a file before teeth are cut or etched.

CHISEL CUT A method of cutting teeth into the surface of an annealed file blank by striking it with a series of repeated blows as the blank is moved beneath a chisel at a uniform speed. In the cutting operation, the chisel is placed obliquely to the length and is inclined to the surface of the file. This is done either by hand or machine. Generally used to produce files of No. 2 cut and coarser.

CROCHET FILE Rectangular in cross section with rounded edges. Cut on both faces and edges. Tapered in length and slightly tapered in thickness.

CROSSING FILE Oval cross section with same radium as half round files on one side and other side curved to a larger radius. Cut on both sides. Tapered in width and thickness.

CUT The number of teeth per inch, the degree of coarseness of a file's teeth, from No. 00 to No. 8 in Swiss precision files. Also used to describe the type of file such as single cut or double cut etc.

DIE MAKERS' RIFFLERS Various cross sectional shapes. Teeth cut on a small area of each end leaving a long middle portion as a handle. The cut ends are of various designs. Length is overall. Originally designed and hand forged by die makers for their specific purposes now a generic term for this particular group of rifflers.

DIE SINKERS' RIFFLERS See Die Makers' Rifflers. This group of rifflers has smaller cross sectional shapes.

DOUBLE CUT The arrangement of file teeth formed by two series of cuts. The first is the overcut which is followed by the upcut at an angle to the overcut.

EDGE The narrow cross section or side of a file.

EQUALLY FILE Thin rectangular cross section, parallel in width and thickness and cut on both faces and edges.

ESCAPEMENT FILE Also called Square Handled Needle Files. A group of files of various cross sectioned shapes with a length of cut varying from 3/4 to 2-1/2" and long square handles. Widely used by jewelers, watch makers, die makers, and fine mechanics.

ETCHED CUT A method of cutting teeth into the surface of a file blank by drawing an etching tool, under sustained pressure, obliquely across an annealed file blank in a series of cuts. This may be done either by hand or machine. This method of cutting is used where it is necessary to retain the true cross section to a file. Generally used to manufacture files finer than a No. 2 cut.

FACE The working surface of a file upon which teeth are cut.

FILING BLOCK A block of wood, soft metal or other material used to protect the material being filed from damage from the jaws of a vise or other holding device. It may contain a series of grooves to hold work securely.

FLAT FILE Also called a Warding File. A form of escapement or square handled needle file. Parallel in thickness. Cut on four sides, tapered in width.

HANDLE A wood or plastic piece that is placed over the tang of a file to protect the hand of the user.

HALF ROUND FILE A cross section that is flat on one side and has a radius (not half circle) on the other side. Cut on both sides. Width and thickness taper.

HALF ROUND SLIM FILE also called Ring files. Same as half round except thinner in width.

HEEL The end of the file at a location where the body ends and the taper leading into the tang begins. Also called the shoulder.

JOINT FILE ROUND EDGE Rectangular cross section with rounded edges. Cut on edges only. Parallel in width and thickness.

KNIFE FILE Knife shaped cross section thast is tapered in width and thickness. Edge has same thickness from point to shoulder.

LENGTH OF CUT The length of a file measured between the shoulder or heel and the point.

MACHINE FILE A file made specifically for use in a filing machine. Various cross sectional shapes. Parallel in width and thickness.

NEEDLE FILE SQUARE HANDLED Also called an escapement file. A group of files of various cross sectional shapes with a length of cut varying between 3/4" and 2-1/2" and long square handle.

NEEDLE FILE ROUND HANDLED A group of files of various cross sections with a knurled round handle. Knurling gives the file a positive, non-slip grip for precision filing.

OVAL FILE An oval cross section tapering in width and thickness.

OVERCUT The first of a series of cuts in a double cut file. Its function is to act as a chip breaker. The second or upcut is made over this cut.

PARALLEL ROUND FILE A round cross section parallel in width.

PILLAR FILE A rectangular cross section with thickness greater relative to width, than in other types. Cut on face or flat sides only. Parallel in width, tapered in thickness. Also demi-narrow and extra narrow widths.

PIN OR PINNING The tendency of small particles of materials to fill or clog the gullets between the teeth of a file. When the teeth become clogged the file causes scratches on the work. When this occurs the file is pinned.

POINT The front end of a file as contrasted with the tang end.

POINTED BACK BARRETTE FILE A triangular cross section with one side wider than the other two sides out on wide or face side only tapered in width and length.

RASP CUT A cut used on wood rifflers that is made by a punch raising a series of individual cutting teeth.

RIFFLERS From the German riefein, to channel, chaufer, flute or groove. Originally used and hand forged by die sinkers, die makers, silversmiths and other skilled artisans in shapes and cross sections appropriate to their work. Teeth are cut on small areas on each end that can be shaped like everything from trowels to button hooks. A long middle portion serves as a handle.

RING FILE Also called a half round slim file.

ROUND FILE Round in cross section tapered in width.

ROUNDING OFF FILE An escapement or square handle needle file half round in cross section. Cut on flat side. Parallel in width.

SAFE The side or edge of a file that has no teeth cut in it so as not to mar a work surface that does not require filing.

SCREW HEAD FILE A narrow diamond shaped section with short bevels to form sharp edges. Cut on beveled edges, safe on flat sides. Parallel in width and thickness.

SECTION The cross section or end view of a file if it were cut squarely at the place of greatest width and thickness from the tang.

SILVERSMITH'S RIFFLERS A group of various cross sectioned shapes originally designed for use by silversmiths. Teeth are cut on small areas of each and leaving a long middle portion as a handle. The cut ends are of varied designs.

SINGLE CUT The teeth formed on a file by a single series of cuts.

SLITTING FILE A flat diamond shaped cross section. Cut on all sides. Parallel in width and thickness.

SQUARE FILE Square in cross section. Cut on all sides. Tapered.

TANG The part of the file that tapers from the shoulder that is intended to be fitted with a handle.

THREE SQUARE FILES Equilaterally triangular in cross section. Cut on all sides with sharp corners. Tapered.

TOOL MAKERS' RIFFLERS Various cross sectional shapes with teeth cut on a small area at each end leaving a long middle portion as a handle. The cut ends are of various designs to meet the needs of tool makers.

UPCUT The second series of teeth cut in double cut files made over the first series of cuts called the overcut. This cut is made of an angle to the overcut.

WARDING FILE A rectangular cross with teeth cut on all sides up to 4" in length and on 3 sides with one safe edge on files 6" and longer. Tapered in width, parallel in thickness.

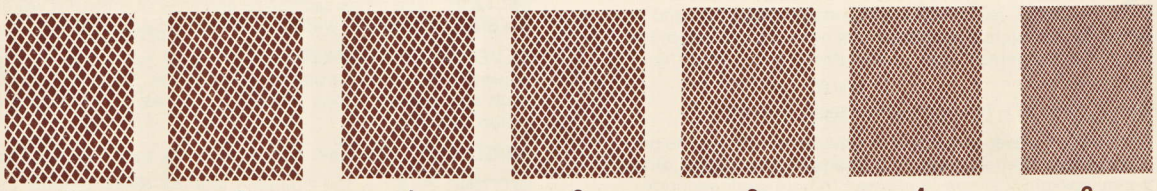
WARRENSVILLE FILE & KNIFE, INC.

26309 MILES ROAD, CLEVELAND, OHIO 44128 U.S.A.

Telephone: (216) 831-7266
Telex: 241743

FILE FINDER FOR SWISS PATTERN FILES

Cross-Section	Name	Shape	Character of Teeth	Taper	General Uses
	Hand	Rectangular	Double-cut on two flat faces and one edge. Other edge safe or uncut.	Uniform in width, tapered in thickness.	Flat surfaces.
	Pillar	Width narrower than Hand File	Double-cut on two flat faces and one edge. Other edge safe or uncut.	Uniform in width, tapered in thickness.	Flat surfaces, slots.
	Warding	Thin Rectangular	Double-cut on two flat faces. Single-cut on two edges.	Tapered in width, uniform in thickness.	Flat surfaces,
	Square	Square	Double-cut.	Tapered	Corners, holes.
	Three-Square	Triangular (Equilateral)	Double-cut on three faces. Single-cut on edges.	Tapered	Corners, holes.
	Round	Circular	Double-cut.	Either tapered or uniform (straight).	Corners, holes.
	Half-Round	Third-Circular	Double-cut.	Tapered	Corners, holes.
	Knife	Knife-Shaped	Double-cut on flat faces. Single-cut on edges.	Tapered	Slots
	Crossing	Oval, with unequal radii	Double-cut.	Tapered	Corners, holes.
	Equalling	Rectangular	Double-cut on flat faces. Single-cut on edges.	Uniform through-out length.	Slots, corners.
	Barrette	Trapezoidal	Cut only on wide flat face. Other faces safe.	Tapered	Corners, flat surfaces, burring gear teeth.
	Crochet	Flat, with round edges	Double-cut.	Tapered	Slots, flat surfaces, rounded corners.
	Slitting	Flat Diamond	Double-cut on four faces Single-cut on two sharp edges.	Blunt	Slots, corners.



00 0 1 2 3 4 6

The above cuts are for a 6" file. Shorter files will be finer and larger files will be coarser.

DISTRIBUTED BY: